SCHEMATIC DESIGN DOCUMENTS

100% Draft Schematic Design Documents shall consist of the following (Additional types of information, processes and considerations may be required for certain projects.):

Design Concepts Assessment

Present and revise, as needed, site integrated massing and architectural design concepts based on the completed Contextual Analysis and Project Program. NPS will verify conformance with the Contextual Analysis. Design Concepts include:

- Sketches
- Massing Models
- Character sketches
- Diagrams
- Images

In consultation with NPS, choose Final Design Concepts for advancement to Schematic Design. Final Design Concepts may include:

- Sketches
- Massing Models
- Character sketches
- Diagrams
- Images

Schematic Design Alternatives

Each Schematic Design Alternative may consist, as applicable, of the following for the specific project (additional information may be required for certain projects):

- Drawings
    - Site Plan
    - Grading Plan
    - Demolition Plan
    - Site Details
    - Floor Plans
    - Typical Sections
    - Typical Elevations
    - Utility Plan
    - Process Diagrams
    - Character Sketches

- Presentation Options

    - Physical study model
    - Computer-generated three dimensional model images
    - Film or digital images
    - MS Powerpoint presentation
    - Color hand-drawn perspective and oblique drawing prints

Class C Construction Cost Estimates for Each Schematic Design Alternative

- Class C Construction Cost Estimates shall be prepared in a format matching the Class C Construction Cost Estimate sample.

Value Analysis Report

- Format the Value Analysis Report per the Value Analysis Report Template

Fully Developed Schematic Design Preferred Alternative

The Fully Developed Schematic Design Preferred Alternative shall consist of the following, as applicable, for the specific project (additional information may be required for certain projects):

- Site and Utility Plans
- Building Floor Plans, Elevations and Sections
- Basis of Design Report

    Narrative and drawings that capture all aspects of the project including descriptions of engineering systems, building, site and utility design; structural, mechanical, electrical, water and wastewater analysis; energy analysis; and materials analysis. The report shall include:

    - Project Program
    - Systems Analysis

        - Civil Engineering

            - Storm water management
            - Utility corridor or routing
            - Roadway and parking

        - Landscape Architecture

            - Functional analysis of site program

    - Roadway and parking siting and analysis
    - Vegetation and planting
    - Materials analysis
    - Character defining features listing (cultural landscape)
    - Statement of historic significance (cultural landscape)

- Water/Wastewater Systems

    - Code analysis and verification
    - Descriptions of water/wastewater systems and alternatives
    - Design flow calculations
    - Fire flow requirements
    - Results of soils testing, e.g. percolation test results
    - Results of sampling and testing of wastewater
    - Utility corridor or routing
    - Calculations for utility system sizing
    - Modeling
    - Special studies, e.g. hazmat

- Architecture and Preservation Architecture

    - Code analysis
    - Functional analysis of building program
    - Materials analysis (interior and exterior materials and finishes)
    - Character defining features listing (historic structures)
    - Statement of historic significance (historic structures)

- Structural Systems

    - Analysis of code and loading requirements
    - Foundation system description
    - Roof and floor framing systems description
    - Lateral load-resisting elements description

- Mechanical Systems

    - Descriptions of alternative mechanical systems
    - Mechanical code review, listing special code requirements
    - Adequacy of site utilities for mechanical systems, based on actual measurements of flow and pressure available or based on information from local utility companies
    - Justifications for and descriptions of preferred alternative mechanical systems

- Electrical Systems

    - Descriptions of electrical systems and alternatives
    - Load summary and calculations (if applicable)
    - Adequacy of site utilities for electrical systems based on information from local utility companies; verification of phase and voltage available
    - Electrical code review, listing special code requirements
    - Discussion of telecommunication, fire, and intrusion

- Energy Analysis

    - Comparison of energy source alternatives, including renewable energy
    - Life cycle costing for value analysis of mechanical system alternatives
    - Preliminary mechanical system sizing
    - Energy analysis for US Green Building Council's (USGBC) LEED™ certification
    - Energy budgeting for proposed facilities

- Fire Protection

    - Fire Safety Plan (Code Analysis). RM 58 requires that all projects develop a Fire Safety Plan to address the unique fire and life safety issues. The Fire Safety Plan consists of the following elements:

        INTRODUCTION
        DESIGN TEAM
        APPLICABLE CODES
        FIRE PROTECTION/LIFE SAFETY APPROACH

        General Description
        General Fire Resistive
        Construction Aspects
        Occupancy Classifications
        Fire Resistive Separations
        Doors and Windows
        Interior Wall, Ceiling and Floor Finishes
        Decorative Structures within Buildings
        Egress
        Special Design
        Emergency Signage
        Suppression Systems

Fire Department Access
Fire Detection and Alarm System
Emergency Communication Systems
Smoke Management Description
Central Control Station
Emergency and Standby Power
Elevators

ACCEPTANCE TESTING
PERIODIC OPERATION AND MAINTENANCE
CONCLUSION

- Fully Developed Schematic Design Documents may also include the following:

  - Renderings and illustrative plans
  - Color hand-drawn perspective and oblique drawings
  - Computer-generated three dimensional model
  - Physical study model
  - Photographs or digital images
  - Microsoft PowerPoint presentation

- Class B Construction Cost Estimate

  - Class B Construction Cost Estimates shall be prepared in a format matching the Class B Construction Cost Estimate sample.

- LEED™ Project Checklist

  - Use the LEED™ Project Checklist

Cost Comparability Analysis

- The Cost Comparability Analysis shall be prepared utilizing the Cost Comparability Analysis template.

100% Draft Schematic Design Documents Submittal Formats

- Submit 100% Draft Schematic Design Documents in Hard Copy Formats only.

  - Schematic Design Alternatives
  - Class C Construction Cost Estimates for Each Schematic Design Alternative
  - Value Analysis Report
  - Fully Developed Schematic Design Preferred Alternative

        - Site and Utility Plans
        - Building Floor Plans, Elevations and Sections
        - Basis of Design Report:
        - Class B Construction Cost Estimate
        - LEED™ Project Checklist

    - Cost Comparability Analysis

Final Schematic Design Documents Submittal Formats

- Submit Final Schematic Design Documents in both Hard Copy Formats and Electronic Formats.

    - Schematic Design Alternatives
    - Class C Construction Cost Estimates for Each Schematic Design Alternative
    - Value Analysis Report
    - Fully Developed Schematic Design Preferred Alternative

        - Site and Utility Plans
        - Building Floor Plans, Elevations and Sections
        - Basis of Design Report
        - Class B Construction Cost Estimate
        - LEED™ Project Checklist

    - Cost Comparability Analysis

- Development Advisory Board (DAB) Support Documents

    - Submit DAB Documents in Electronic Formats.

        - Proposed Design Development and Construction Document Value Analysis activities on remaining key decisions.
        - Five or fewer graphics providing an overview of the project, for example:

            - Existing Conditions Plan - location plan
            - Site Plan
            - Building Plans for each level
            - Building Elevations
            - Building and Site Sections

        - Information required to update the Environmental Screening Form (ESF)